

Talk #142, 4/24/24

142nd meeting of The Lyncean Group of San Diego

Date: Wednesday, 24 April 2024

Location: Southwestern Yacht Club
2702 Qualtrough Street, San Diego, CA 92106 (Point Loma)

Speaker: Dr. C. Gresham Bayne, MD



Source: STRATOS / Red Bull

Topic: STRATOS: How setting world skydiving records saved lives

Speaker bio: Dr. Bayne is a retired emergency physician with a half-century of experience in practicing medicine at the point-of-care.

After receiving a Masters in Biology at William and Mary and an MD degree at the Medical College of Virginia, he began his formal training in general surgery at the Balboa Naval Hospital in San Diego. He later received Navy sponsorship for out-service training in emergency medicine at Georgetown University.

As the Navy's and San Diego's first residency-trained emergency physician, Dr. Bayne became Chairman of the largest military emergency department in the world at Balboa Naval Hospital.

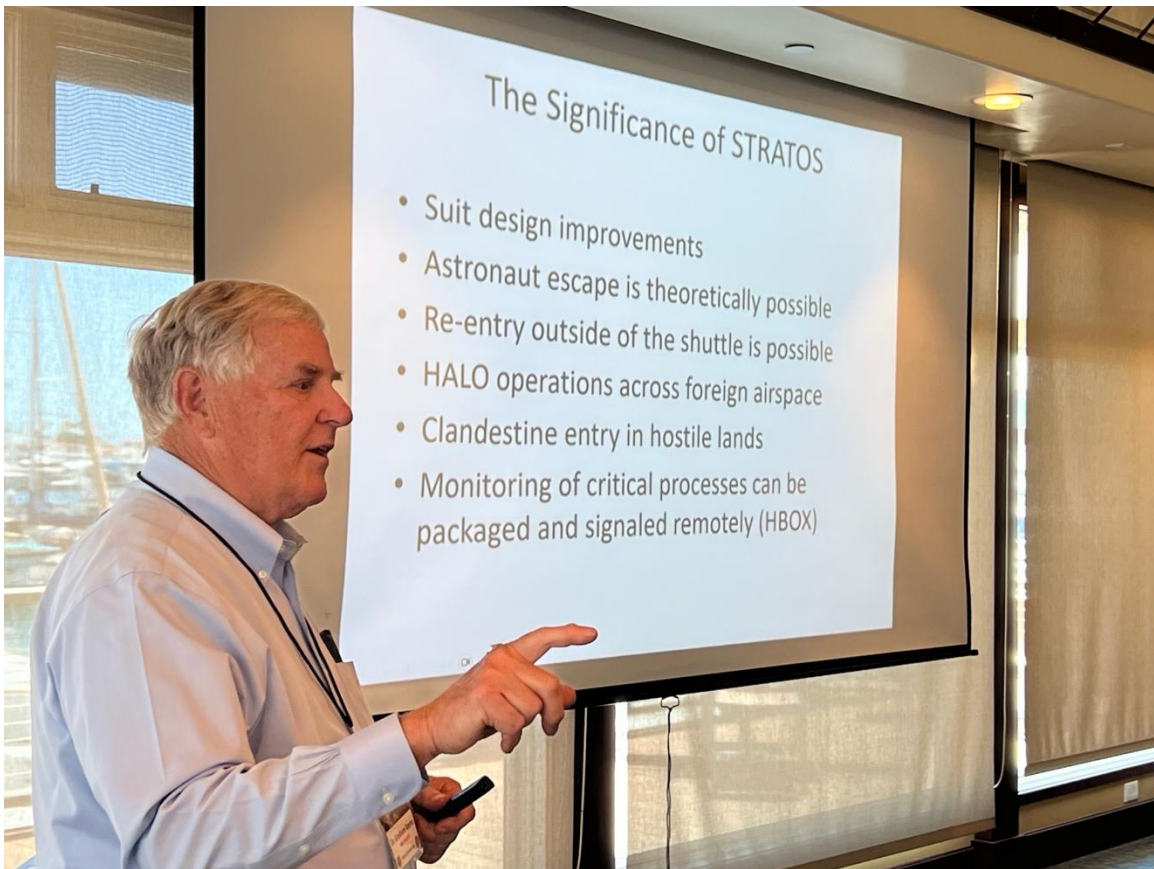
This Chair gave him the opportunity to approach Dr. Forest Bird (the man who created a family of unique mechanical ventilators that replaced the iron lung) about his interest in the use of jet ventilation to resuscitate patients in the ER and, potentially, trauma victims in transit to a trauma center (for example, UCSD's LifeFlight Program). His ten-year consultancy with Dr. Bird introduced him, as a Member of the National Research Council, to other national experts in the field of pulmonary resuscitation. Dr. Bayne co-invented a high-frequency ventilator small enough to fit in a pocket and powered only by compressed air or oxygen, and used it during many LifeFlight missions. Such devices later were modeled by the national "Hack-a-Vent" project, at the beginning of the COVID crisis, as a means to supplement the expected national ventilator shortage.

Abstract:

As a result of his expertise with Dr. Bird, Dr. Bayne was selected as the Director of Critical Care for the STRATOS Project, a privately funded attempt to demonstrate the feasibility of space shuttle astronauts surviving ebullism following a high-altitude catastrophic failure following launch, such as the Columbia space shuttle disaster, as well as an unannounced, secret military objective.

His talk today will focus on the strategic objectives of STRATOS, how breaking three world records for freefalling through the sound barrier was achieved, and the inside story behind Felix Baumgartner's historic jump. In addition, he will explain the advantages of using "Taylor Dispersion" to allow resuscitation of non-breathing victims without their chest inflating, while maintaining normal arterial blood gases until they arrive at the trauma center.

Meeting photos:





On 14 October 2012, Felix Baumgartner made the record-breaking STRATOS jump from an altitude of 39,045 meters (128,100 feet). During freefall, he reached a maximum of speed of 1,357.6 km/h or 843.6 mph (Mach 1.25). Check out short YouTube video with mission highlights [here](#).



The Lyncean parachute jumper commemorated the STRATOS jump by making a short jump from a helium balloon.

Dr. Bayne's presentation slides are available for download [here](#).

The Lyncean meeting slides are available for download [here](#).